

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Claims 43, 50, 54, 56, 59, 61-64, 67-68, 75, 79, 81, 84, 86-89, 92, 93, 97, 103, 104, 108, 110, 112, 113, 114 and 117 have been amended. Claims 118-120 have been added. The basis for the above amendments and additional claims may be found throughout the specification, drawings and claims as originally filed.

Claim 97 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 43-95, 97-101, 103, 104 106-108 and 110-117 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Silverman et al. (hereinafter "*Silverman*") in view of Tseung, U.S. Patent No. 5,036,518 (hereinafter "*Tseung*"). Applicant respectfully traverses these rejections.

With regard to the rejection under 35 U.S.C. 112, second paragraph, the Office Action rejected claim 97 because it depended from claim 96, which had been cancelled. Applicant has amended claim 97 to depend from claim 93. Applicant respectfully requests that this rejection to claim 97 be reconsidered and withdrawn.

With regard to the 103(a) rejections, *Silverman* generally teaches a matching system for trading instruments in a network environment; however, *Silverman* does not teach or suggest the use of timers or timing systems or methods for ensuring timely receipt of signals. *Tseung* teaches the use of a timer at a central retransmission station in a network to ensure proper transmission of all broadcast messages on the network; however *Tseung* does not teach or suggest the use of timers at workstations, or for the use of timers to ensure the transmission of specific messages, such as acknowledgement messages or match notification messages. Further,

Tseung teaches the use of timers in a network for the transmission of all messages, not for specific messages. Additionally, *Tseung* teaches away from the use of timers or methods using timers in the transmission of one-to-one messages or non-broadcast messages, such as transmissions between a workstation and a network computer.

In combination, *Silverman* and *Tseung* teach a matching system for trading instruments over a network in which directed transaction messages are transferred between a host computer and a keystation and broadcast messages are transferred over the entire network (*Silverman*), in which system all broadcast messages are confirmed or acknowledged (*Tseung*), and in which the broadcast messages are confirmed using a timer at a central re-transmission station on the network, rather than at individual workstations (*Tseung*). As such, the combination does not teach or suggest the claims of the present invention. For at least these reasons, Applicant respectfully submits that the present invention is patentable over *Silverman* and *Tseung* either alone or in combination.

Accordingly, independent claim 100, amended independent claims 43, 67, 68, 87, 92, 93, 103, 117, and new independent claim 120, each recite a system for exchanging signals wherein a workstation has a confirmation timer for measuring the time elapsed from reception of a specific signal or transaction until another specific signal is received. In contrast, *Tseung* teaches that only the retransmission station of the network has a timer and performs message acknowledgement. (see *Tseung*, col. 19, lines 22-26). Thus, either alone or in combination with *Silverman*, there is no teaching or suggestion for workstations in a network system to have timers for message acknowledgement.

Thus, for at least these reasons, independent claims 100; 43, 67, 68, 87, 92, 93, 103, 117 (as amended); and 120 are allowable over the prior art of reference. Additionally, claims 44-53

and 65-78 and 90 and new claims 118-119, which depend from independent claim 43; claims 69-74, which depend from independent claim 68; and claims 94-97, 98-99, and 115, which depend from claim 93; are allowable along with claims 43, 68, and 93 and on their own merits.

Independent claims 54, 79, 104 each recite a method for acknowledging the receipt of signals that includes the step of determining when an indication sent by the network to a workstation has not been received during an interval. Independent claim 106 recites a similar method that includes the step of measuring an elapsed time from receiving a specific transaction message from the network to the workstation until a subsequent specific transaction message is received at the workstation from the network. In contrast, *Tseung* teaches that steps of message timing or determining if messages are received within a particular time period occur at the retransmission station on the network, rather than at workstations. Further, *Tseung* teaches that whenever "the network retransmission station 20 sends a message on network B18 it starts a timer," rather than measuring the elapsed time for only specific messages. (see *Tseung* at col. 19, lines 25-26). There is no teaching or suggestion in *Silverman* to use timers or to time message intervals.

Therefore, either alone or in combination, *Silverman* and *Tseung* do not teach or suggest the present invention according to these claims. For at least these reasons, Claims 54, 79, 104 and 106 are allowable over *Silverman* and *Tseung*. Additionally, claims 55-58, which depend from independent claim 54; claims 80-83 and 91, which depend from independent claim 79; claim 116, which depends from claim 104; and claims 107-108, which depends from claim 106; are allowable along with claims 54, 79, 104 and 106 and on their own merits.

Independent claims 62 and 112 each recite a workstation having a confirmation timer for measuring time elapsed from said workstation receiving or sending a specific signal until it

receives a corresponding different specific signal. Independent claims 63, 88 and 113 each recite a computer-readable medium having computer-executable instructions for performing steps that include the step of measuring the time elapsed from reception of a first acknowledgement at a workstation to reception of a second acknowledgement at the workstation. In contrast, *Tseung* teaches that the steps of message timing or determining if messages are received within a particular time period occur at the network, rather than at workstations. Further, *Tseung* teaches that all messages broadcast on a network start a timer, rather than measuring the elapsed time between specific messages. There is no teaching or suggestion in *Silverman* to use timers or to time message intervals.

Accordingly, alone or in combination, *Silverman* and *Tseung* do not teach or suggest the present invention according to these claims. For at least these reasons, Claims 62, 63, 88, 112 and 113 are allowable over *Silverman* and *Tseung*. Additionally, claim 64, which depends from independent claim 63; claim 89, which depends from independent claim 88; and claim 114, which depends from claim 113; are allowable along with claims 62, 63, 88, 112 and 113 and on their own merits.


Independent claims 59, 84, 110 each recite “[a] computer readable medium having computer-executable instructions from performing the steps comprising ... receiving an alarm from one of said workstations notifying said networked processor that said indication that the networked processor received the acknowledgement was not received by one of said workstations during an interval.” In contrast, *Tseung* teaches “that there is no message acknowledgement from a general participant station 24 to the retransmission station 28.” (col. 16, lines 65-67). As such, *Tseung* explicitly does not teach the sending of an alarm from a workstation to a networked processor, nor is there any suggestion for such an alarm. Also, there

is no teaching or suggestion in *Silverman* for timing message intervals, much less sending an alarm if such an interval is exceeded prior to reception of a specific message.

Thus, either alone or in combination, *Silverman* and *Tseung* do not teach or suggest the present invention according to these claims. For at least these reasons, Claims 59, 84, 110 are allowable over *Silverman* and *Tseung*. Additionally, claims 60-61, which depend from independent claim 59; claims 85-86, which depend from independent claim 84; and claim 111, which depends from claim 110; are allowable along with claims 59, 84 and 110 and on their own merits.

In view of the above, it is respectfully submitted that the application is in condition for allowance. Reconsideration and prompt allowance are respectfully requested. If the Examiner feels that a telephone interview would be helpful in facilitating prosecution of the case, the Examiner is respectfully requested to contact the undersigned attorney of record to discuss the application.

Respectfully submitted,

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MARKED-UP VERSION OF AMENDMENTS

IN THE CLAIMS

Please amend the CLAIMS to read as follows:

43. (Thrice Amended) A system for exchanging signals relating to at least a bid and an offer, the system comprising:

- a network connected to workstations;
- a first workstation of said workstations, said first workstation sending a first signal to said network signaling a bid in response to an initial offer; and
- a second workstation of said workstations, said second workstation receiving a second signal indicative of said bid from said network and for sending an acknowledgement of said received bid to said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second signal until said second workstation receives a specific fourth signal;
- said network sending at least a third signal to said first workstation and at least a said fourth signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation,
- wherein at least one of said network, said first workstation, and said second workstation determines when one of said acknowledgements has not been received during an interval.

50. (Twice Amended) The system according to claim 43, wherein said second workstation further comprises:

~~a confirmation timer for measuring the time elapsed from said second workstation receiving said second signal until said second workstation receives said fourth signal; and~~

a storage unit for storing an indication that a purchase relating to said bid was not completed upon the elapsed time measured by said confirmation timer exceeding a predetermined confirmation timeout period.

54. (Four Times Amended) A method for acknowledging the receipt signals relating to bids and offers in an electronic trading system, said electronic trading system including a network and at least first and second workstations coupled to a network, the method comprising the steps of:

sending an offer from the first workstation to the network in response to an initial bid;
receiving the offer from said network at the second workstation;
sending from the second workstation to said network an acknowledgement of the receipt of the offer;

sending from the network to the first and second workstations an indication that the network acknowledges the acknowledgement from said second workstation; and

determining when ~~at least one of said acknowledgements~~ indication that the network acknowledges the acknowledgement from said second workstation has not been received during an

interval.

56. (Thrice Amended) The method according to claim 54, ~~further comprising~~
wherein the step of determining when said indication that the network acknowledges the
acknowledgement from said second workstation has not been received during an
interval comprises the

steps of:

measuring an elapsed confirmation time from receiving the offer from the network at the
second workstation until the second work station receives from the network the indication that
the network received the acknowledgement of the transaction from the second workstation; and

storing an indication that the transaction is unconfirmed upon the measured elapsed
confirmation time exceeding a predetermined confirmation timeout period.

59. (Four Times Amended) A computer-readable medium having computer-executable

instructions for performing steps comprising:

receiving at a networked processor an offer from a first workstation in response to an initial bid;

sending the offer from the networked processor to a second workstation;

receiving an acknowledgement of a transaction based on the offer from the second workstation at the networked processor;

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said networked processor that said determining when at least one of said indication that the networked processor received the acknowledgements has ~~was not been~~ received by one of said workstations during an interval.

61. (Thrice Amended) The computer-readable medium of claim ~~60~~ 59 having further

computer-executable instructions for performing steps comprising:

measuring an elapsed acknowledgement time from receiving the offer at the networked processor from the first workstation until the networked processor receives the acknowledgement of the receipt of the ~~bid~~ offer from the second workstation; and

storing an indication that the receipt of the ~~bid~~ offer is unacknowledged upon the measured

elapsed acknowledgement time exceeding a predetermined acknowledgement timeout period.

62. (Four Times Amended) A workstation participating in the exchange of signals, the signals including at least a bid and an offer, the workstation connected to a network, said network connected to at least a second workstation, said workstation comprising:

- a receiver for receiving an initial offer;
- a processor for processing said initial offer; and
- a confirmation timer for measuring time elapsed from said workstation receiving or sending one of specific signals until said workstation receives a corresponding different one of specific signals; and

an output for outputting a first signal to said network, said first signal signaling a bid in response to said initial offer;

said receiver also receiving a second signal wherein said second signal indicates the acknowledgement of a receipt of said first signal by said second workstation and a third signal when said acknowledgement was not received during an interval.

63. (Four Times Amended) A computer-readable medium having computer-executable instructions for performing steps associated with a purchase comprising a bid and an offer comprising:

- transmitting to a network an offer from a first workstation in response to a received initial bid;
- receiving a first acknowledgement from said network indicating receipt of said offer;
- measuring the time elapsed from reception of said first acknowledgement to reception of a second acknowledgement; and
- receiving an said second acknowledgement from said network indicating that a second workstation originating said initial bid has acknowledged said transmitted offer; and
- receiving an alert from said network when said second acknowledgement has not been received during an interval.

64. (Twice Amended) The computer readable medium according to claim 63, having further computer readable instructions comprising the step of: processing said second acknowledgement as an acceptance of said transmitted offer.

67. (Thrice Amended) A system for exchanging signals relating to at least a bid or an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling a bid in response to an initial offer; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said bid transmitted from said first workstation in response to said initial offer from over said network, said second workstation sending an acknowledgement of said bid received from said first workstation over said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second signal until said second workstation receives a specific fourth signal; and

said network sending at least a third signal to said first workstation and at least a said fourth

signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation;

wherein at least one of said network, said first work station, and said second work station determines when at least one of said acknowledgements has not been received during an interval.

68. (Four Times Amended) A system for exchanging signals relating to at least a bid

and an offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling an offer in response to an initial bid; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said offer from said network and for sending an acknowledgement of said received offer to said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second signal until said second workstation receives a specific fourth signal;

said network sending at least a third signal to said first workstation and at least a said fourth

signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation;

wherein at least one of said network, said first workstation, and said second workstation determines when one of said acknowledgements has not been received during an interval.

75. (Amended) The system according to claim 68, wherein said second workstation

further comprises:

~~a confirmation timer for measuring the time elapsed from said second workstation receiving said second signal until said second workstation receives said fourth signal; and~~

a storage unit for storing an indication that a purchase relating to said offer was not completed upon the elapsed time measured by said confirmation timer exceeding a predetermined confirmation timeout period.

79. (Twice Amended) A method for acknowledging the receipt signals relating to bids

and offers in an electronic trading system, said electronic trading system including a network and at least first and second workstations coupled to a network, the method comprising the steps of:

sending a bid from the first workstation to the network in response to an initial offer;
receiving the bid from said network at the second workstation;
sending from the second workstation to said network an acknowledgement of the receipt of the bid;

sending from the network to the first and second workstations an indication that the network acknowledges the acknowledgement from said second workstation; and

determining when at least one of said acknowledgements indication that the network acknowledges the acknowledgement from said second workstation has not been received during an interval.

81. (Amended) The method according to claim 79, wherein the transaction messages

relate to a transaction, said ~~method further comprising~~ step of determining when said indication that the network acknowledges the acknowledgement from said second workstation has not been received during an interval comprises the steps of:

measuring an elapsed confirmation time from receiving the bid from the network at the second workstation until the second work station receives from the network the indication that the network received the acknowledgement of the transaction from the second workstation; and

storing an indication that the transaction is unconfirmed upon the measured elapsed confirmation time exceeding a predetermined confirmation timeout period.

84. (Twice Amended) A computer-readable medium having computer-executable instructions for performing steps comprising:

receiving at a networked processor a bid from a first workstation in response to an initial offer;

sending the bid from the networked processor to a second workstation;

receiving an acknowledgement of a transaction based on the bid from the second workstation at the networked processor;

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said network that said determining when at least one of said indication that the networked processor received the acknowledgements has was not been received by said one of said workstations during an interval.

86. (Amended) The computer-readable medium of claim 85 84 having further computer-executable instructions for performing steps comprising:

measuring an elapsed acknowledgement time from receiving the bid at the networked processor from the first workstation until the networked processor receives the acknowledgement of the receipt of the offer bid from the second workstation; and

storing an indication that the receipt of the offer bid is unacknowledged upon the measured

elapsed acknowledgement time exceeding a predetermined acknowledgement timeout period.

87. (Twice Amended) A workstation participating in the exchange of signals, the signals

including at least a bid and an offer, the workstation connected to a network, said network connected to at least a second workstation, said workstation comprising:

a receiver for receiving an initial bid;

a processor for processing said initial bid;

a confirmation timer for measuring time elapsed from said workstation receiving or sending one of specific signals until said workstation receives a corresponding different one of specific signals; and

an output for outputting a first signal to said network, said first signal signaling an offer in response to said initial bid,

said receiver also receiving a second signal wherein said second signal indicates the acknowledgement of a receipt of said first signal by said second workstation and a third signal when said acknowledgement was not received during an interval.

88. (Twice Amended) A computer-readable medium having computer-executable instructions for performing steps associated with a purchase comprising an offer comprising:

- transmitting to a network a bid from a first workstation in response to a received initial offer;
- receiving a first acknowledgement from said network indicating receipt of said bid;
- measuring the time elapsed from reception of said first acknowledgement to reception of a second acknowledgement;
- receiving an said second acknowledgement from said network indicating that a second workstation originating said initial offer has acknowledged said transmitted bid; and
- receiving an alert from said network when said second acknowledgement has not been received during an interval.

89. (Amended) The computer readable medium according to claim 88, having further computer readable instructions comprising the step of:

- processing said second acknowledgement as an acceptance of said transmitted bid.

92. (Twice Amended) A system for exchanging signals relating to at least a bid or an

offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a first signal to said network signaling an offer in response to an initial bid; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said offer transmitted from said first workstation in response to said initial bid from over said network, said second workstation sending an acknowledgement of said offer received from said first workstation over said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second signal until said second workstation receives a specific fourth signal;

said network sending at least a third signal to said first workstation and at least a said fourth

signal to said second workstation, said at least third and said at least fourth signals indicating acknowledgement of said acknowledgement from said second workstation,

wherein at least one of said network, said first work station, and said second work station determines when at least one of said acknowledgements has not been received during an interval.

93. (Twice Amended) A system for exchanging signals relating to at least a bid or an

offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second transaction message to said network in response to a first transaction message; and

a second workstation of said workstations, said second workstation receiving a third transaction message from said network indicative of said second transaction message and for sending an acknowledgement of said received third transaction message to said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said third message until said second workstation receives a specific fifth message;

said network sending at least a fourth transaction message to said first workstation and at least a said fifth transaction message to said second workstation, said at least fourth and said at least

fifth transaction messages indicating acknowledgement of said acknowledgement from said second workstation

wherein prior to the transmission of said second transaction message by said first workstation, said second workstation transmits said first transaction message to said network.

97. (Amended) The system according to claim 96 93, said network generating and transmitting an acknowledgement of said first transaction message to said second workstation.

103. (Twice Amended) A system for exchanging signals relating to at least a bid or an

offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second transaction message to said network in response to a first transaction message;

a second workstation of said workstations, said second workstation receiving a third transaction message from said network indicative of said second transaction message and for sending an acknowledgement of said received third transaction message to said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said third transaction message until said second workstation receives a specific fifth transaction message;

said network sending at least a fourth transaction message to said first workstation and at least a said fifth transaction message to said second workstation, said at least fourth and said at least

fifth transaction messages indicating acknowledgement of said acknowledgement from said second workstation

wherein said network further comprises:

a computer for matching at least bids or offers from said workstations in accordance with

predetermined matching criteria.

an acknowledgement timer for measuring the time elapsed from reception of said second

transaction message by said network from said first workstation until reception of said acknowledgement by said network from said second workstation; and

a storage unit for storing an indication that a purchase was not acknowledged upon the

elapsed time measured by said acknowledgement timer exceeding a predetermined acknowledgement timeout period.

104. (Twice Amended) A method for acknowledging the receipt signals relating to at least

bids or offers in an electronic trading system, said electronic trading system including a network and at least first and second workstations coupled to a network, the method comprising the steps of:

sending a first transaction message from the second workstation to the network;

receiving an acknowledgement of the first transaction message from the network at the second workstation

sending a second transaction message from the first workstation to the network in response to the first transaction message;

receiving the second transaction message from said network at the second workstation;

sending from the second workstation to said network an acknowledgement of the receipt of the second transaction message; and

sending from the network to the first and second workstations an indication that the network acknowledges the acknowledgement from said second workstation; and

determining when said indication that the network acknowledges the acknowledgement from said second workstation has not been received during an interval at said second workstation.

108. (Twice Amended) A The method for acknowledging the receipt signals relating to at least bids or offers in an electronic trading system, ~~said electronic trading system including a network and at least first and second workstations coupled to a network, the method of Claim 106 further~~ comprising the steps

of:

~~sending a second transaction message from the first workstation to the network in response to a first transaction message;~~
~~receiving the second transaction message from said network at the second workstation;~~
~~sending from the second workstation to said network an acknowledgement of the receipt of the second transaction message;~~

~~sending from the network to the first and second workstations an indication that the network acknowledges the acknowledgement from said second workstation;~~

measuring an elapsed acknowledgement time from receiving the second transaction message at the network from the first workstation until the network receives the acknowledgement from the second workstation; and

storing an indication that the second transaction message transmitted to said second workstation is unacknowledged upon the measured elapsed acknowledgement time exceeding a predetermined acknowledgement timeout period.

110. (Twice Amended) A computer-readable medium having computer-executable instructions for performing steps comprising:

receiving at a networked processor a first transaction message from a second workstation;

sending an acknowledgement of the first transaction message from the networked processor to the second workstation

receiving at the networked processor a second transaction message from a first workstation in response to the first transaction message;

sending the second transaction message from the networked processor to the second workstation;

receiving an acknowledgement of a transaction based on the second transaction message from the second workstation at the networked processor; and

sending from the networked processor to the first and second workstations an indication that the networked processor received the acknowledgement of the transaction; and

receiving an alarm from one of said workstations notifying said networked processor that said indication that the networked processor received the acknowledgement was not received by one of said workstations during an interval.

112. (Twice Amended) A workstation participating in the exchange of signals, the signals

including at least a bid or an offer, the workstation connected to a network, said network connected to at least a second workstation, said workstation comprising:

a receiver for receiving a first transaction message;

a processor for processing said first transaction message;

a confirmation timer for measuring time elapsed from said workstation receiving or sending one of specific transaction messages until said workstation receives a corresponding different one of specific transaction messages; and

an output for outputting a first signal to said network, said first signal signaling a second transaction message in response to said first transaction message;

said receiver also receiving a third transaction message wherein said third transaction message indicates the acknowledgement of a receipt of said second transaction message by said second workstation and said receiver receiving an alert from said network when said network has not received the acknowledgement of said second transaction message after a predetermined interval.

113. (Twice Amended) A computer-readable medium having computer-executable instructions for performing steps associated with a purchase comprising:

transmitting to a network a second transaction message from a first workstation in response to a received first transaction message;

receiving a first acknowledgement from said network indicating receipt of said second transaction message;

measuring the time elapsed from reception of said first acknowledgement to reception of a second acknowledgement; and

receiving ~~an~~ said second acknowledgement from said network indicating that a second workstation

originating said first transaction message has acknowledged said second transaction message; and

receiving an alert from said network when said network has not received the acknowledgement of said second transaction message after a predetermined interval.

114. (Amended) The computer readable medium according to claim 113, having further computer readable instructions comprising the step of:

processing said second acknowledgement as an acceptance of a transaction relating to said second transaction message.

117. (Twice Amended) A system for exchanging signals relating to at least a bid or an

offer, the system comprising:

a network connected to workstations;

a first workstation of said workstations, said first workstation sending a second transaction message to said network signaling a response to a first transaction message; and

a second workstation of said workstations, said second workstation receiving a second signal indicative of said second transaction message transmitted from said first workstation in response to said first transaction message from over said network, said second workstation sending an acknowledgement of said second transaction message received from said first workstation over said network, said second workstation having a confirmation timer for measuring the time elapsed from reception of said second transaction message until said second workstation receives a pre-determined fourth transaction message;

said network sending at least a third transaction message to said first workstation and at least said fourth transaction message to said second workstation, said at least third transaction message and said at least fourth transaction message indicating acknowledgement of said acknowledgement from said second workstation

said network providing an alert when said acknowledgement has not been received after a predetermined interval.